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10/671,718	09/29/2003	Yuichi Ogawa	500.43154X00	9914

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MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.  
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SUITE 370  
ALEXANDRIA, VA 22314

EXAMINER

KIM, PAUL

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/671,718	<b>Applicant(s)</b> OGAWA ET AL.	
	<b>Examiner</b> Paul Kim	<b>Art Unit</b> 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**SAM RIMELL**  
**PRIMARY EXAMINER**

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on (571) 272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Kim  
Patent Examiner, Art Unit 2161  
TECH Center 2100

### DETAILED ACTION

1. This Office action is responsive to the following communication: Amendment filed on 08 January 2007.
2. Claims 1-20 are pending and present for examination. Claims 1, 3, 6, 7, 10, 16, and 18 are independent.

#### ***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claims 1-20** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1, 3, 6, 7, 10, 16, and 18 are directed to a "document search method for finding a document relevant to a search condition" wherein the last method step recites the outputting of the inclusion degree. However, this fails to render the claims statutory since once the calculated inclusion degree is outputted, it is not utilized to effectuate a "useful, concrete, and tangible result." See *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. MPEP 2106. "The claimed invention as a whole must accomplish a practical application. That is, it must produce a 'useful, concrete and tangible result' " (emphasis added). Accordingly, the inclusion degree is not displayed as disclosed by paragraph [0065] of Applicant's Specification, nor is the inclusion degree used in creating a list of relevant documents.

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. **Claims 13 and 15** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. **As per claims 13 and 15**, the claims recited a method step of "regarding each block as a relevant block to the seed text if the calculated similarity of the block is higher than a preset value." The if-statement creates renders the method step optional since it may be found that a calculated similarity of a block may not be higher than a preset value.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 1-20** are rejected under 35 U.S.C. 102(b) as being anticipated by Caudill et al (U.S. Patent No. 6,766,316, hereinafter referred to as CAUDILL), filed on 18 January 2001, published on 12 September 2002, and issued on 20 July 2004.

10. **As per independent claims 1, 3, 6, 7, 10, 16, and 18**, CAUDILL teaches:

A document search method for finding a document relevant to a search condition from object documents as search objects, comprising the steps of:

acquiring a seed text which is inputted as the search condition {See CAUDILL, C6:L24-32, wherein this reads over "a user can make queries in the form of natural language, keywords, or predicates"};

partitioning the object document into a plurality of blocks {See CAUDILL, C7:L30-45, wherein this reads over "[t]he document vectorization unit 130 converts the set of predicate structures derived from ontologically parsing a document into one or more large-dimensioned numerical vectors"};

calculating similarity of each block of the object document to the seed text {See CAUDILL, C7:L46-51, wherein this reads over "comparing an overall pattern of predicate structures in the document to the user's query"};

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judging whether or not the calculated similarity satisfies a predetermined condition {See CAUDILL, C10:L18-35, wherein this reads over "compares two predicate structures and returns a similarity measure"};

calculating, as an inclusion degree, a ratio of blocks that are judged as satisfying said condition to the whole of the object document {See CAUDILL, C10:L14-17, wherein this reads over "[t]he relevance of a document to a user's query is determined by calculating the similarity coefficient, based on the structures of each pair of query predicates and document predicates"}; and

outputting the inclusion degree.

Additionally, the Examiner notes that the method step of "outputting the inclusion degree" would be inherent to the claimed invention in that when a calculation is made, a result is necessarily outputted.

11. **As per dependent claims 2, 5, 8, 11, 17, and 20,** the Examiner notes that the method step of "outputting the inclusion degree and the similarity" would be inherent to the claimed invention in that when a calculation is made, a result is necessarily outputted. Additionally, wherein the calculations for the similarity and the inclusion degree both take into account the object document, it is inherent that the similarity and the inclusion degree will be associated with each other.

12. **As per dependent claim 4, 9, and 19,**

The document search device according to claim 3, further comprising:

- a full-text search condition acquisition module which acquires a full-text search condition to be used for a full-text search of the object documents {See CAUDILL, C6:L24-32, wherein this reads over "a user can make queries in the form of natural language, keywords, or predicates"};
- a full-text search condition analysis module which analyzes the acquired full-text search condition {See CAUDILL, C10:L53-56, wherein this reads over "an input query 118 is sent to the ontological parser 122. Fourth, the ontological parser 122 parses the input query 118 and generates one or more predicate structures"}; and
- a full-text search condition relevancy calculation module which, on the analyzed full-text search condition, calculates, as a full-text search condition relevancy, a ratio of a number of relevant min terms satisfied by characteristic strings of said each block to a number of total min terms included in the full-text search condition {See CAUDILL, C10:L59-64, wherein this reads over "a query predicate library (representing an input query 118) and a set of document predicate libraries (representing a set of documents 120) are sent to the relevancy ranking component 128 to compare the similarity level between an input query 118 and the document 120"}, wherein:

the inclusion degree calculation module judges whether or not the calculated similarity satisfies the first predetermined condition and whether or not the calculated full-text search condition relevancy satisfies a second predetermined condition, and calculates, as the inclusion degree, a ratio of blocks that are judged to satisfy the first and second predetermined conditions to the whole of the object document {See CAUDILL, C10:L14-17, wherein this reads over "[t]he relevance of a document to a user's query is determined by calculating the similarity coefficient, based on the structures of each pair of query predicates and document predicates"}.

**13. As per dependent claim 12, CAUDILL teaches:**

The document search method according to claim 1, further comprising the steps of:

extracting character strings from the acquired seed text {See CAUDILL, C10:L53-56, wherein this reads over "an input query 118 is sent to the ontological parser 122. Fourth, the ontological parser 122 parses the input query 118 and generates one or more predicate structures"}; and

extracting character strings from the block of the object document {See CAUDILL, C10:L40-44, wherein this reads over "the ontological parser 122 parses each document 120 and generates one or more predicate structures for each sentence in the document"}, wherein:

the similarity of each block of the object document to the seed text is calculated by comparing the character strings extracted from each block with the character strings extracted from the seed text {See CAUDILL, C10:L59-64, wherein this reads over "a query predicate library (representing an input query 118) and a set of document predicate libraries (representing a set of documents 120) are sent to the relevancy ranking component 128 to compare the similarity level between an input query 118 and the document 120"}.

**14. As per dependent claim 13, CAUDILL teaches:**

The document search method according to claim 12, further comprising the steps of:

regarding each block as a relevant block to the seed text if the calculated similarity of the block is higher than a preset value {See CAUDILL, C13:L11-17, wherein this reads over "the predicate structure matching component determines a matching degree between two predicate structures" and "[i]f they match exactly, the result is returned to the user"};

counting the number of blocks judged as the relevant blocks {See Figures 8 and 13-16}; and

storing the counted number of relevant blocks {See CAUDILL, C23:L23-38}.

**15. As per dependent claim 14, CAUDILL teaches:**

The document search method according to claim 13, wherein the total number of blocks included in the object document is calculated, and the inclusion degree is calculated from a ratio of the calculated total number of blocks to the stored counted number of relevant blocks {See CAUDILL, C10:L14-17, wherein this reads over "[t]he relevance of a document

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to a user's query is determined by calculating the similarity coefficient, based on the structures of each pair of query predicates and document predicates").

16. **As per dependent claim 15, CAUDILL teaches:**

The document search device according to claim 4, further comprising a characteristic string extraction module which extracts characteristic strings from the seed text, wherein:

the characteristic string extraction module extracts characteristic strings also from each block of the object document {See CAUDILL, C7:L30-45, wherein this reads over "[t]he document vectorization unit 130 converts the set of predicate structures derived from ontologically parsing a document into one or more large-dimensional numerical vectors"},

the similarity calculation module calculates the similarity of each block by comparing the characteristic strings extracted from the block with the characteristic strings extracted from the seed text {See CAUDILL, C10:L59-64, wherein this reads over "a query predicate library (representing an input query 118) and a set of document predicate libraries (representing a set of documents 120) are sent to the relevancy ranking component 128 to compare the similarity level between an input query 118 and the document 120"}, and

the inclusion degree calculation module

regards each block as a relevant block if the similarity of the block is higher than a preset value and the full-text search condition relevancy of the block is higher than a preset value {See CAUDILL, C13:L11-17, wherein this reads over "the predicate structure matching component determines a matching degree between two predicate structures" and "[i]f they match exactly, the result is returned to the user"},


counts the number of the relevant blocks included in the object document {See Figures 8 and 13-16}, and

calculates the inclusion degree of the object document by use of the counted number of relevant blocks and the total number of blocks included in the object document {See CAUDILL, C23:L23-38}.

**Conclusion**

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

  
SAM RIMELL  
PRIMARY EXAMINER